



Proposal to Add Microplastics to the Candidate Chemicals List

June 27, 2023



Department of Toxic Substances Control



Cal/EPA

How to Participate

Questions can be submitted two ways:

- ✓ Question & Answer (Q&A) function
- ✓ Raise hand function

❖ For those calling in, dial *9 to raise your hand and dial *6 to unmute.



Agenda

Opening Remarks

Karl Palmer, Deputy Director

Proposal to Add Microplastics to the Candidate Chemicals List

Rob Brushia, PhD, Senior Environmental Scientist (Supervisory)

Microplastics: What, Where, and Why Do We Care?

Valerie Hanley, PhD, Senior Toxicologist

Public Input

Closing Comments

Karl Palmer, Deputy Director





Opening Remarks

Karl Palmer, Deputy Director



Department of Toxic Substances Control



Cal/EPA

Safer Consumer Products framework

California's Department
of Toxic Substances
Control (DTSC)

Safer Consumer Products (SCP)

Reducing toxic chemicals
in products that
consumers buy and use

1
Candidate
Chemical List

Chemicals listed as a concern by
Authoritative Bodies

2
Priority
Products

Product-Chemical combinations
that may cause harm

3
Alternatives
Analysis

Manufacturer evaluation of safer
alternatives

4
Regulatory
Response

Wide range of possible actions to protect
human health and the environment





Proposal to Add Microplastics to the Candidate Chemicals List

Rob Brushia, Ph.D., Senior Environmental Scientist (Supervisory)



Department of Toxic Substances Control



Cal/EPA

What action is DTSC considering?

DTSC is proposing to add Microplastics to our Candidate Chemicals list.

- Would this action create any new regulatory requirements for stakeholders?



Revisions to the Candidate Chemicals List

CCR title 22, section 69502.2 (b)

...the Department may identify as Candidate Chemicals those chemicals that exhibit one or more hazard traits and/or environmental or toxicological endpoints by considering the following factors for which reliable information is available:

- 1) Adverse Impacts
- 2) Exposures
- 3) Availability of Information



Discussion Topics

- What are plastics and microplastics?
- Do MPs meet the definition of chemical?
- How does DTSC propose to define MPs?
- Why is DTSC considering this action?



What are plastics?

Plastics are synthetic materials made from a wide range of organic polymers and may contain a variety of additives. Some examples include:

- Polyethylene terephthalate
- High-density polyethylene
- Low-density polyethylene
- Polystyrene
- Polypropylene
- PVC, and many others

➤ Approximately 10 billion tons produced since 1950



What are Microplastics?

- MPs are small pieces of plastic, generally considered to have a maximum dimension of 5mm.
- There are Primary and Secondary Microplastics:
 - Primary
 - *Manufactured and added to products*
 - *Sometimes called microbeads*
 - *Includes some nanoplastics*
 - Secondary Microplastics (make up as much as 80% of the MPs in the environment)
 - *Environmental or mechanical degradation of plastic products*



Do Microplastics really meet the definition of chemical?

- “Chemical” was intentionally broadly defined as “an organic or inorganic substance of a particular molecular identity...”
 - “Molecular identity” may be described in terms of a substance’s particle size, size distribution, and surface area.
- DTSC is basing its proposed definition for MPs on their polymeric structure and size distribution (< 5,000 microns) of MPs.



Proposed definition

“Microplastics” are defined as solid polymeric materials to which chemical additives or other substances may have been added, which are particles having at least three dimensions that are less than 5,000 micrometers (μm).



Why is DTSC considering this proposal?

- Microplastics are:
 - Global pollutants
 - Potentially harmful
 - Persistent in environment
 - Widespread exposure for humans and other organisms



Microplastics exhibit potential hazard characteristics...

- Different MPs have the potential to exhibit a different potential hazard traits, depending on certain factors. However, all MPs appear to exhibit two particular hazard traits:
 - Environmental Persistence (See Cal. Code Regs, tit. 22, §69405.3)
 - Mobility in Environmental Media (See Cal. Code Regs, tit. 22, §69405.6)



Exposure to Microplastics is widespread...

- Humans are exposed via inhalation and ingestion.
- Terrestrial animal exposure is widespread.
- Aquatic animal exposure is widespread.



What products may contain or give rise to Microplastics?

- Cigarette butts
- Personal care and beauty
- Clothing and textiles
- Tires
- Artificial turf and track surfaces
- Plastic bags and packaging
- Detergents
- Paints
- Waxes
- Many others...



Conclusion

DTSC has determined that reliable information suggests that MPs exhibit certain hazard characteristics, and that there is widespread and significant potential for human and ecological exposures to MPs. This information supports DTSC's proposal to add MPs to the Candidate Chemicals list.



The Team

- Valerie Hanley, Ph.D., Senior Toxicologist
valerie.hanley@dtsc.ca.gov
- Alicia Taylor, Ph.D., Staff Toxicologist
- Dicle Yardimci, Ph.D., Senior Hazardous Substances Engineer
- Rob Brushia, Ph.D., Senior Environmental Scientist (Supervisory)
robert.brushia@dtsc.ca.gov





Closing Comments

Karl Palmer, Deputy Director



Department of Toxic Substances Control



Cal/EPA

Stay in touch

- [The public comment website](#) for this proposal is live, and will close at 11:59 PM PDT on July 27, 2023.
- The background document and other information for this workshop can be accessed at our [Proposed Addition to the Candidate Chemicals List](#) web page.
- A video of the workshop will be available on our [Workshops and Upcoming Events](#) web page.
- A draft of our new 2024-2027 Priority Product Workplan will be released later this summer. Please sign up for our electronic mailing list to get announcements about this, and other events and workshops at: [Safer Consumer Products E-List](#).
- SaferConsumerProducts@dtsc.ca.gov



SCP is hiring!

- Scientists, engineers, toxicologists, and more...
- [Safer Consumer Products Recruitment E-List](#)
- [Career Opportunities in the Safer Consumer Products Program](#)

